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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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GORTAYO, DANGELINO N

ART UNIT	PAPER NUMBER
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2168

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	04/10/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/10/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcarter@kmob.com  
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**Office Action Summary**

Application No.

10/684,313

Applicant(s)

MASON, ZACHARY J.

Examiner

Dangelino N. Gortayo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____   | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. Applicant's arguments filed on 1/11/2007. Claims 1-16 are pending.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 11-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Ford et al. ("Ford" US Patent 6,963,867 B2).

As per claim 11, Ford teaches "A method of distributing credit for a selection event among the nodes of a browse tree," (see Abstract) "the method comprising: determining a total amount of credit to be distributed for the selection event in which a user selected an item within the browse tree;" (column 18 lines 24-33, wherein different actions by the user are used to determine popularity score) "identifying each ancestor node of the selected item within the browse tree;" (column 20 lines 11-21 and column 21 lines 33-43, wherein items are in categories, with a top level category) "dividing said total amount of credit by the number of ancestor nodes of the selected item to determine an amount of credit per ancestor to be distributed for the selection event;" (column 21 lines 58-67, column 22 lines 49-57, column 23 lines 54-62, wherein the

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score is divided by number of items that match a search within the category) "and assigning said amount of credit per ancestor to the ancestor nodes of the selected item within the browse tree." (column 23 lines 14-30, wherein the category popularity score is computed)

**As per claim 12, Ford teaches "said total amount of credit is the same for all selection events." (column 18 lines 12-23)**

**As per claim 13, Ford teaches "said total amount of credit varies based on the nature of the selection event." (column 18 lines 33-38)**

**As per claim 14, Ford teaches "the selection event comprises viewing an item and said total amount of credit varies based on the amount of time spent viewing the item." (column 18 lines 26-28)**

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-10 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ortega et al. ("Ortega" US Patent 6,606,619 B2) in view of Herz ("Herz" US Patent 6,460,036 B1).

**As per claim 1, Ortega teaches "A computer-implemented method of analyzing browse activity data of users of a database access system,"(see Abstract) "the method**

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comprising: providing a browse tree in which items represented within a database are arranged within item categories over multiple levels of item categories;" (Figure 1B and column 4 lines 52-61, wherein a browse tree of books is provided) "assigning individual user history scores to specific categories of the browse tree based at least in-part on an item selection history of a user, wherein the individual user history scores represent the user's predicted affinities for the corresponding item categories;" (column 10 lines 32-45, wherein individual user history scores are compiled) "assigning collective user history scores to specific categories of the browse tree based at least in-part on item selection histories of a population of users, wherein the collective user history scores represent the predicted affinities of the user population for the corresponding item categories;" (column 10 line 46 – column 11 line 2, wherein scores are based on the collective actions of the community). Ortega does not teach "and evaluating differences between the individual user history scores and the collective user history scores to generate a relative preference profile for the user, wherein the relative preference profile comprises relative preference scores for specific item categories, said relative preference scores reflecting a degree to which the user's predicted affinity for a category differs from the predicted affinity of the user population for that category."

Herz teaches ""and evaluating differences between the individual user history scores and the collective user history scores to generate a relative preference profile for the user, wherein the relative preference profile comprises relative preference scores for specific item categories, said relative preference scores reflecting a degree to which the user's predicted affinity for a category differs from the predicted affinity of the user

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population for that category.” (Figure 12 reference 1205, column 18 lines 49-55, column 19 line 17 – column 20 line 55, column 27 line 60 – column 28 line 19, wherein a target object score for a user based on the selected user feedback and relevant feedback from all users, based on the object’s similarity to other objects and the target’s preferences based on other user’s preferences). It would have been obvious at the time of the invention for one of ordinary skill in the art to combine Ortega’s method of identifying and recommending nodes in a browse tree based on previous historical actions with Herz’s method of calculating interest in an object based on a user’s history and relevant feedback from all users of the system. This gives the advantage of a recommendation system better able to recommend relevant items based on user’s personal history and a collective history. The motivation for doing so would be to improve upon a recommendation system to be more precise and comprehensive in representing a user’s taste. (column 2 lines 16-28)

**As per claim 4, Ortega** teaches “evaluating differences between the individual user history scores and the collective user history scores comprises calculating at least one of a relative entropy function, a dot product function, or a sum of squares function of the individual user history scores relative to the collective user history scores” (column 15 line 55 – column 16 line 4, wherein the distribution between the user and collective scores are found, equivalent to a relative entropy function)

**As per claim 5, Ortega** teaches “providing personalized item recommendations to the user based at least in-part on the relative preference profile.” (column 7 lines 44-48, wherein items are recommended based on the scores)

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**As per claim 6, Ortega** teaches “providing personalized category recommendations to the user based at least in-part on the relative preference profile.” (column 7 lines 48-51, wherein leaf categories are presented based on scores)

**As per claim 7, Ortega** teaches “the item selection history of the user comprises a history of items selected for downloading.” (column 12 lines 20-28, wherein the item history comprises purchase history)

**As per claim 8, Ortega** teaches “the item selection history is based solely on the user's selections of items during browsing of the browse tree.” (column 12 lines 20-28, wherein item selection history comprises web activity data)

**As per claim 9, Ortega** teaches “incrementally updating the relative preference profile of the user in response to new item selection events of the user.” (column 15 lines 43-54, wherein the user score is initiated when a user performs actions)

**As per claim 10, Ortega** teaches “the relative preference profile is updated substantially in real-time as the user interacts with the browse tree.” (column 15 lines 43-54, wherein the user score is incremented as the user navigates the browse tree)

**As per claim 15, Ortega** teaches “a server system coupled to a communications network, said server system providing access to a browse tree in which items represented within a database are arranged within a hierarchy of item categories over multiple levels of item categories, said server system configured to maintain item selection histories for each user within a population of users;” (Figure 2 reference 220 and column 9 lines 46-57, “server components”) “and a recommendation module

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coupled to the server system and configured to access the relative preference profile of the user to make personalized recommendations to the user based at least in-part on the relative preference profile.” (Figure 2 reference 290, 292 and column 10 lines 32-45, “category popularity table” and “popular items table”). Ortega does not teach “an analysis module which analyzes at least the item selection histories to predict user affinities for specific item categories of the browse tree, wherein the analysis module additionally generates a relative preference profile for a given user by calculating differences between the user's predicted affinities for specific item categories of the browse tree and the population's predicted affinities for said item categories;”

Herz teaches “an analysis module which analyzes at least the item selection histories to predict user affinities for specific item categories of the browse tree, wherein the analysis module additionally generates a relative preference profile for a given user by calculating differences between the user's predicted affinities for specific item categories of the browse tree and the population's predicted affinities for said item categories;” (Figure 12 reference 1205, column 18 lines 49-55, column 19 line 17 – column 20 line 55, column 27 line 60 – column 28 line 19, wherein a target object score for a user based on the selected user feedback and relevant feedback from all users, based on the object's similarity to other objects and the target's preferences based on other user's preferences). It would have been obvious at the time of the invention for one of ordinary skill in the art to combine Ortega's method of identifying and recommending nodes in a browse tree based on previous historical actions with Herz's method of calculating interest in an object based on a user's history and relevant



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feedback from all users of the system. This gives the advantage of a recommendation system better able to recommend relevant items based on user's personal history and a collective history. The motivation for doing so would be to improve upon a recommendation system to be more precise and comprehensive in representing a user's taste. (column 2 lines 16-28)

6. Claims 2-3 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ortega et al. ("Ortega" US Patent 6,606,619 B2) in view of Herz ("Herz" US Patent 6,460,036 B1) and further in view of Ford et al. ("Ford" US Patent 6,963,867 B2).

**As per claim 2,** Ortega and Herz disclose claim 1 above. Ortega and Herz do not teach "assigning individual user history scores to specific categories comprises: (a) determining an amount of credit to be distributed for an item selection event in which the user selected an item; and (b) distributing said amount of credit among the item categories under which the item falls, including item categories at multiple levels of the browse tree". Ford teaches "assigning individual user history scores to specific categories comprises: (a) determining an amount of credit to be distributed for an item selection event in which the user selected an item; and (b) distributing said amount of credit among the item categories under which the item falls, including item categories at multiple levels of the browse tree." (column 18 lines 12-37 and column 22 lines 27-57, wherein user actions determine the popularity score and the credits are assigned to top level categories and the items in the category for better searches).

It would have been obvious at the time of the invention for one of ordinary skill in the art to combine Ortega's method of identifying and recommending nodes in a browse tree based on previous historical actions and Herz's method of calculating interest in an object based on a user's history and relevant feedback from all users of the system with Ford's method of assigning a score to a category and its descendants based on user actions. This gives the advantage of a recommendation system better able to recommend relevant items as well as a group of items. The motivation for doing so would be to effectively present groups of items relevant to the user's interest, based on past history. (column 1 lines 32-37)

**As per claim 3,** Ford teaches "repeating (a) and (b) for each of a plurality of selection events while summing credit values assigned to like item categories." (column 23 lines 14-29, wherein the steps are repeated)

**As per claim 16,** Ortega and Herz disclose claim 15 above. Ortega and Herz do not teach "the analysis module calculates the user's predicted affinities for the specific item categories based at least in-part by distributing an amount of credit associated with an item selection event among a plurality of item categories under which the selected item falls within the browse tree". Ford teaches "the analysis module calculates the user's predicted affinities for the specific item categories based at least in-part by distributing an amount of credit associated with an item selection event among a plurality of item categories under which the selected item falls within the browse tree." (column 18 lines 12-37 and column 22 lines 27-57, wherein user actions determine the

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popularity score and the credits are assigned to top level categories and the items in the category for better searches).

It would have been obvious at the time of the invention for one of ordinary skill in the art to combine Ortega's method of identifying and recommending nodes in a browse tree based on previous historical actions and Herz's method of calculating interest in an object based on a user's history and relevant feedback from all users of the system with Ford's method of assigning a score to a category and its descendants based on user actions. This gives the advantage of a recommendation system better able to recommend relevant items as well as a group of items. The motivation for doing so would be to effectively present groups of items relevant to the user's interest, based on past history. (column 1 lines 32-37)

### ***Response to Arguments***

7. Applicant's arguments filed 1/11/2007 with respect to the 35 USC 102(e) rejection of claims 11-14 have been fully considered but they are not persuasive.

a. Examiner is entitled to give claim limitations their broadest reasonable interpretation in light of the specification. See MPEP 2111 [R-I]

#### **Interpretation of Claims-Broadest Reasonable Interpretation**

During patent examination, the pending claims must be 'given the broadest reasonable interpretation consistent with the specification.' Applicant always has the opportunity to amend the claims during prosecution and broad interpretation by the examiner reduces the possibility that the claim, once issued,

will be interpreted more broadly than is justified. In re Prater, 162 USPQ 541,550-51 (CCPA 1969)

b. Applicant's argument is stated as Ford does not disclose "dividing said total amount of credit by the number of ancestor nodes of the selected item to determine an amount of credit per ancestor to be distributed for the selection event"

In response to the argument, Examiner respectfully disagrees. The method of Ford that teaches determining a category popularity score of different categories is executed once search results in response to a search query is generated (column 20 line 65 – column 21 line 14). The user-initiated search query has a direct bearing on which categories are evaluated for an appropriate query response. In Ford, items are placed in a set falling within different categories (Table IV and column 21 lines 33-42). The examiner reads categories as being the ancestor of a group of related items. As outlined in the cited sections of Ford, the categories are given a score based on its significance to a query term, with each category given a score (column 21 lines 58-67). The category popularity score is the relevance of the category to a user query, can be determined for each specific category by dividing the matching number of search results with the total number of items in a category, and is based on the search query results (column 23 lines 54-62). Therefore, Ford teaches "dividing said total amount of credit by the number of ancestor nodes of the selected item to

determine an amount of credit per ancestor to be distributed for the selection event”

8. Applicant's arguments filed 1/11/2007 with respect to the 35 USC 103(a) rejection of claims 1-10 and 15-16 have been fully considered but they are not persuasive.

c. Applicant's argument is stated as Ortega and Herz do not disclose “evaluating differences between the individual user history scores and the collective user history scores to generate a relative preference profile for the user, wherein the relative preference profile comprises relative preference scores for specific item categories, said relative preference scores reflecting a degree to which the user's predicted affinity for a category differs from the predicted affinity of the user population for that category.”

In response to the argument, Examiner respectfully disagrees. Herz, in column 27 line 60 – column 28 line 19, teaches that user profiles are compiled not only from user history, but can also be collected from user collected data. This data is stored in a user profile and collected through a rapid profiling process, providing a user with a history to be used in comparison with other users. This user profile can also contain user relevance feedback for all target objects, and is compared to the known interest of other users with similar profiles. This basically means that a user profile is used to compare the user's preference for a specific object or group of objects to a user group. The use of

the limitation "individual user history" in the instant application suggests that a user history is tracked, in Herz's case, through a user profile, based on specified events, such as amount of time spent on a site or click-through (column 17 line 33-43 and column 18 lines 13-28). Then, relevance feedback comes into play, and can be used to compare a user profile with a user group profile (column 19 lines 21-35) to find the interest in an object or a group of clustered objects in tree form (column 25 lines 18-33). The likelihood of interest can more simply be explained as the interest in an item for a user with similar other users (column 18 lines 49-55). Since objects are grouped in hierarchy cluster trees, objects are in sets to be search and given a relevancy score (column 24 lines 27-36).

Therefore, Ortega and Herz teach "evaluating differences between the individual user history scores and the collective user history scores to generate a relative preference profile for the user, wherein the relative preference profile comprises relative preference scores for specific item categories, said relative preference scores reflecting a degree to which the user's predicted affinity for a category differs from the predicted affinity of the user population for that category."

d. Applicant's argument is stated as Ortega and Herz do not disclose "an analysis module which analyzes at least the item selection histories to predict user affinities for specific item categories of the browse tree, wherein the analysis module additionally generates a relative preference profile for a given user by calculating differences between the user's predicted affinities for specific item

categories of the browse tree and the population's predicted affinities for said item categories;"

In response to the argument, Examiner respectfully disagrees. As stated in the above argument response, Herz teaches predicting user affinity for item categories by comparing user history with population history. In particular, column 27 line 60 – column 28 line 19, Herz teaches that a user profile for a new user contains a rough characterization of new user interests, based on a rapid profiling process, and is used with the known interest of other users to predict a new user's interests. Therefore, Ortega and Herz teach "an analysis module which analyzes at least the item selection histories to predict user affinities for specific item categories of the browse tree, wherein the analysis module additionally generates a relative preference profile for a given user by calculating differences between the user's predicted affinities for specific item categories of the browse tree and the population's predicted affinities for said item categories;"

e. Applicant's argument is stated as Ortega, Herz, and Ford do not disclose claims 2, 3, and 16 based on "evaluating differences between the individual user history scores and the collective user history scores to generate a relative preference profile for the user, wherein the relative preference profile comprises relative preference scores for specific item categories, said relative preference scores reflecting a degree to which the user's predicted affinity for a category differs from the predicted affinity of the user population for that category."

In response to the argument, Examiner respectfully disagrees. As stated in the above argument for claim 1, Ortega and Herz teach "evaluating differences between the individual user history scores and the collective user history scores to generate a relative preference profile for the user, wherein the relative preference profile comprises relative preference scores for specific item categories, said relative preference scores reflecting a degree to which the user's predicted affinity for a category differs from the predicted affinity of the user population for that category.". Therefore, the combination of Ortega, Herz, and Ford would teach the same limitation.

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action..



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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dangelino N. Gortayo whose telephone number is (571)272-7204. The examiner can normally be reached on M-F 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim T. Vo can be reached on (571)272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dangelino N. Gortayo  
Examiner



Tim T. Vo  
SPE



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SUPERVISORY PATENT EXAMINER  
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